

WHAT IS CLAIMED IS:

1. An airborne meter communication system comprising:
an airborne platform movable through a flight path and including a first radio frequency transceiver adapted to transmit a meter interrogation signal at a predetermined waypoint along the flight path; and
a ground based utility meter including a second radio frequency transceiver adapted to transmit meter data in response to receipt of the meter interrogation signal, wherein the airborne platform is adapted to receive the data and to transmit the meter data to a ground station.
2. The system of claim 1, wherein the data related to the meter includes data regarding one of usage patterns, total power consumed, service interrupt alerts, and power outage data.
3. The system of claim 1, wherein the data includes one of usage data and meter identification data.
4. The system of claim 1, wherein the first radio frequency transceiver includes a directional antenna.
5. The system of claim 1, wherein the first radio frequency transceiver includes adaptive antenna control.
6. The system of claim 1, wherein the airborne platform further includes a computer in communication with the first radio frequency transceiver.
7. The system of claim 6, wherein the airborne platform further includes a navigation system in communication with the computer and wherein the computer is adapted to control the first radio frequency transceiver based upon data received from the navigation system and upon the location of the ground based utility meter.
8. The system of claim 7, wherein the computer controls the first radio frequency transceiver based further upon an antenna orientation on the second radio frequency

transceiver and upon any obstruction to communication between the first radio frequency transceiver and the second radio frequency transceiver.

9. The system of claim 1, wherein the airborne platform further comprises data storage for storing the data related to the meter.

10. The system of claim 1 further comprising a ground based station adapted to receive the data from the airborne platform.

11. The system of claim 10, further comprising a computer controlled display.

12. The system of claim 10, wherein the ground based station is further adapted to transmit data to the airborne platform.

13. The system of claim 10, wherein the ground based station is adapted to transmit data to the airborne platform by one of a RF transmission and a physical media.

14. The system of claim 12, wherein the data transmitted to the airborne platform includes one of a connect command, a disconnect command and a flight path.

15. The system of claim 10, wherein the ground based station is adapted to receive the data via radio frequency communication from the airborne platform.

16. The system of claim 10, further comprising a network operations center adapted to selectively communicate with the ground based station.

17. The system of claim 16, wherein the network operations center is further adapted to selectively communicate with a utility.

18. The system of claim 16, wherein the network operations center comprises:
a local area network;
an application/database server in communication with the local area network;
a firewall in communication with the local area network; and
a router in communication with the firewall.

19. The system of claim 18, wherein the network operations center further comprises a modem for selective communication with the ground based station.
20. The system of claim 16, wherein the application/database server comprises:
an application processor; and
a database in communication with the application processor.
21. The system of claim 20, wherein the database includes meter related information and wherein the application processor is adapted to separate the meter related information into segregated files in the database.
22. The system of claim 21, wherein the application processor is adapted to segregate the information based upon the meter identification.
23. The system of claim 21, wherein the application processor is adapted to permit query based data calls to the database.
24. The system of claim 18, wherein the application/database server comprises:
an application server in communication with the local area network; and a database server in communication with the local area network.
25. The system of claim 24, wherein the database server comprises a database that includes information regarding one of usage data, missed read reports, out of cycle read requirements, power outage reports and alerts.
26. The system of claim 24, wherein the network operations center is further adapted to selectively communicate with a plurality of utilities and wherein the network operations center includes an application/database server for each of the plurality of utilities.
27. The system of claim 18, wherein the network operations center further comprises an operator display and wherein the application/database server is adapted to route meter data regarding one of power outage and power interrupt information to the operator display.

28. The system of claim 1, wherein the ground based utility meter is in communication with one of another meter, a home security system, a home appliance, a home network, and a home computer.
29. A method for airborne meter communication, comprising the steps of:
transmitting a meter interrogation signal from an airborne platform;
receiving the meter interrogation signal from the airborne platform in a ground based utility meter;
transmitting data from the ground based utility meter in response to receiving the meter interrogation signal;
receiving the data in the airborne platform; and
transmitting the data from the airborne platform.
30. The method of claim 29, further comprising the step of receiving the data from the airborne platform in a ground based station.
31. A method for airborne meter communication, comprising the steps of:
transmitting one of a meter connect command and a disconnect command from an airborne platform;
receiving one of a meter connect command and a disconnect command from the airborne platform in a ground based utility meter; and
one of connecting service in response to the connect command and disconnecting service in response to the disconnect command.
32. A method for airborne meter communication comprising the steps of:
determining a flight path for an airborne platform based upon the location of at least one ground based utility meter;
flying said flight path with the airborne platform while simultaneously;
transmitting a signal from the airborne platform to the at least one ground based utility meter transceiver; and
receiving the signal from the airborne platform in the ground based utility meter transceiver.
33. The method of claim 32, further comprising the steps of:

transmitting data from the ground based utility meter transceiver in response to receiving the signal; and
receiving the data in the airborne platform.

34. The method of claim 33, further comprising the steps of:

transmitting the data from the airborne platform; and
receiving the data from the airborne platform in a ground station.

35. The method of claim 32, wherein the flight path is also based upon the orientation of the at least one ground based utility meter transceiver.

2025-03-10 10:00:00